Appendix B-3: Description of NO_x Compliance Assessment Methodology

1. **Emission Rate Evaluation for Single Unit Compliance**

(a) **Compliance Determination**

The NO_x emission limit for each unit is compared to the actual annual NO_x emissions rates at the unit as follows. If the unit has an alternative emissions limit (AEL) this limit is used instead of the base emission limit.

(1) For units not associated with a specific stack or associated with multiple stacks only:

If unit NO_x emission rate # unit NO_x emission limit

Unit compliance status is Pass

else

Unit compliance status is Fail.

(2) For units associated with a single common stack:

a. Locate the associated Stack ID for the unit in the ARCONFIG file.

b. If stack NO_x emission rate # NO_x emission limit

Unit compliance status is Pass

else

Unit compliance status is Fail.

(3) For units associated with a complex stack configuration:

a. Locate all associated Stack IDs in ARCONFIG file.

b. Select highest NO_x emission rate for all stacks.

c. If selected stack NO_x emission rate # NO_x emission limit

Unit compliance status is Pass

else

d. Calculate NO_x pounds for the unit as apportioned to the unit from each stack

Unit/Stack NO_x Pounds = Actual Stack NO_x Emission Rate * Unit Heat Input Apportioned from the Stack

e. Calculate the total actual NO_x pounds for the unit:

Unit NO_x Pounds Emitted = Sum of Unit/Stack NO_x Pounds Emitted for Each Unit/Stack

f. Calculate the allowable NO_x pounds for the unit:

Unit Allowable NO_x Pounds = Unit NO_x Emission Limit * Actual Unit Heat Input

g. Determine compliance on a NO_x pounds basis for the unit:

If Unit NO_x Pounds Emitted # Unit Allowable NO_x Pounds

Unit compliance status is Pass

else

Unit compliance status is Fail.

(b) **Excess Emission Calculation**

If the unit compliance status is fail, excess emissions are computed as follows:

(1) Compute allowable tons from the unit:

NO_x Pounds Allowable = Unit NO_x Emission Limit * Actual Annual Unit Heat Input

(2) Compute actual pounds emitted from the unit:

a. For units not associated with any stack or for units associated with a single common stack or for units with multiple stacks only:

Unit NO_x Pounds Emitted = Actual NO_x Emission Rate * Actual Annual Unit Heat Input

b. For units in a complex stack configuration

Unit NO_x Pounds Emitted = Sum of (Unit Apportioned Heat Input from Each Stack * Actual NO_x Emission Rate for Each Stack)

(3) Determine exceedance (tons, rounded to one decimal place):

NO_x Tons Exceedance = (NO_x Pounds Emitted ! NO_x Pounds Allowable) / 2000

2. **Determining Compliance of Units in Averaging Plans**

(a) **Compliance Determination**

For each averaging plan, a NO_x emissions limit is calculated as follows.

(1) Calculate the allowable NO_x pounds for the each unit in the plan:

Unit NO_x Pounds Allowable = Unit NO_x Emission Limit * Actual Annual Unit Heat Input

(2) Calculate the total allowable NO_x pounds for the plan:

Total NO_x Pounds Allowable for Plan = Sum of All Units NO_x Pounds Allowable

(3) Calculate the total actual heat input for the plan:

Total Actual Heat Input for Plan = Sum of Annual Heat Input for All Units

(4) Calculate the allowable NO_x emission rate for the plan:

Allowable NO_x Emission Rate for Plan = Total NO_x Pounds Allowable for Plan / Total Heat Input for Plan

(5) Calculate the actual NO_x pounds for each unit:

a. For units not associated with a common stack:

Unit NO_x Pounds Emitted = Actual NO_x Emission Rate * Annual Unit Heat Input

b. For each stack associated with the plan:

Stack NO_x Pounds Emitted = Actual NO_x Emission Rate * Annual Stack Heat Input

(6) Calculate the actual NO_x pounds for the plan:

Actual NO_x Pounds Emitted for the Plan = Sum of the Unit and Stack NO_x Pounds Emitted

(7) Calculate the total actual heat input for the plan:

Total Heat Input for the Plan = Sum of the Annual Heat Input for Each Unit or Stack with Measured Data

(8) Calculate the Annual NO_x emission rate for the plan:

Annual NO_x Emissions Rate for the Plan = Actual NO_x Pounds Emitted / Annual Heat Input for the Plan

(9) Determine NO_x compliance for the plan:

If Actual NO_x Pounds Emitted for the Plan # NO_x Pounds Allowable for the plan

plan compliance status is Pass

else

plan compliance status is Fail.

(b) **Excess Emission Calculation**

If the plan compliance status is fail, excess emissions are computed in tons to one decimal place as follows:

NO_x Tons Exceedance = (NO_x Pounds Emitted ! NO_x Pounds Allowable) / 2000